

Application No.: 10/036,577  
Filed: 12/31/2001

Examiner: Lerner, M.  
Art Unit: 2654

### **Amendments to the Claims**

The following listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims**

- 1           1 (Currently Amended). A speech recognition system, comprising:  
2           at least one recognizer to produce output signals from audio input signals; and  
3           signals based at least in part on speech models and grammar files;  
4           a feedback module to generate feedback data; data; and  
5           a controller adaptable to modify the speech models and the grammar files based  
6           on the feedback data to improve the performance of the at least one recognizer.  
1  
1           2 (Currently Amended). The speech recognition system of claim 1, wherein the  
2           ~~speech recognition system further comprises a controller~~ the controller is operable to  
3           coordinate production of the output signals.  
1  
1           3 (Currently Amended). The speech recognition system of ~~claim 2~~ claim 1,  
2           wherein the controller is adaptable to provide the feedback data to the recognizer  
3           wherein the recognizer is operable to receive the feedback data.  
1  
1           4 (Cancelled).  
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1           5 (Currently Amended). The speech recognition system of ~~claim 2~~ claim 1,  
2 wherein the controller is adaptable to store the feedback data in a storage.

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1           6 (Cancelled).

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1           7 (Original). The speech recognition system of claim 1, wherein at least one  
2 recognizer further comprises multiple recognizers and a predictor to select a best  
3 performing recognizer from the multiple recognizers based upon the feedback data.

1

1           8 (Original). The speech recognition system of claim 1, wherein the output  
2 signals correspond to one of the group comprised of: text, and command signals.

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1           9 (Original). The system of claim 1, where the feedback module is adapted to  
2 generate feedback data based on internal analysis of at least one of the group  
3 comprised of: grammar files, dialog progression, and output signals.

1

1           10 (Currently Amended). The system of claim 1, wherein the feedback module is  
2 adapted to generate feedback data based on external inputs ~~comprised of~~ comprising at  
3 least one of the group comprised of: annotated grammar files and information received  
4 through an application programming interface.

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1           11 (Currently Amended). A speech recognition system, comprising:

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2 at least one speech recognizer to convert audio input signals to output signals,  
3 wherein the speech recognizer is adapted to receive feedback data and adjust  
4 operation by modifying speech models and grammar files based upon the feedback  
5 data.

1  
1 12 (Original). The speech recognition system of claim 11, wherein the system  
2 further comprises a controller operable to provide the feedback data to the recognizer.

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1 13 (Currently Amended). The speech recognition system of ~~claim 11~~ claim 12,  
2 wherein the controller is adaptable to provide the feedback data to the recognizer.

1  
1 14 (Original). The speech recognition system of claim 13, wherein the speech  
2 recognizer receives the feedback data in a manner of one of the group comprised of:  
3 real-time, and off-line.

1  
1 15 (Original). The speech recognition system of claim 11, wherein the speech  
2 recognition system further comprises a feedback module to collect feedback data.

1  
1 16 (Currently Amended). A method of generating speech recognition feedback  
2 data, the method comprising:

3 converting an audio input signal to an output signal;  
4 estimating a correctness measure wherein the correctness measure expresses if  
5 the output signal is a correct representation of the audio input signal; and

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6 forming a feedback data element wherein the element ~~consists of~~ comprises at  
7 least one of the audio input signal, the output signal, and the correctness measure.

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1 17 (Original). The method of claim 16, wherein the method further comprises  
2 storing the feedback data element.

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1 18 (Original). The method of claim 17, wherein storing the feedback data element  
2 further comprises storing one of the group comprised of: only those feedback data  
3 elements for which the correction measure indicates that the output signal was not  
4 correct and those feedback data elements for which the correction measure indicates  
5 that the output signal was correct.

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1 19 (Original). The method of claim 16, wherein the feedback data is filtered  
2 according to a criteria.

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1 20 (Original). The method of claim 16, wherein the method further comprises  
2 utilizing the feedback data element, wherein utilizing comprises at least one of the group  
3 comprised of: modifying a grammar file based on the feedback data, updating speech  
4 models based on the feedback data and updating a prediction mechanisms based on  
5 the feedback data.

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1           21 (Original). The method of claim 16, wherein the method further comprises  
2     providing the feedback data element to a speech recognition system in which the  
3     feedback data is being collected.

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1           22 (Original). The method of claim 16 wherein estimating a correctness measure  
2     further comprises at least one from a group comprised of: receiving information through  
3     an application programming interface, analyzing grammar files, analyzing the output  
4     signal and analysis of the progression of the dialog.

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1           23 (Original). The method of claim 16, wherein the method further comprises:  
2     assigning an identifier to the audio input signal; and  
3     including the identifier as part of the feedback data element.

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1           24 (Original). The method of claim 16, wherein the method further comprises:  
2     Identifying relevant contextual information; and  
3     Including the relevant contextual information as part of the feedback data  
4     element.

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1           25 (Currently Amended). An article including machine-readable code that, when  
2     executed, causes a machine to:  
3     convert an audio input signal to an output signal;  
4     estimate a correctness measure wherein the correctness measure expresses if  
5     the output signal is a correct representation of the audio input signal; and

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6 form a feedback data element wherein the element ~~consists of~~ comprises at  
7 least one of the audio input signal, the output signal, and the correctness measure.

1

1 26 (Original). The article of claim 25, wherein the article contains further  
2 machine-readable code that, when executed, causes the machine to provide the  
3 feedback data element to a speech recognition system in which feedback data is being  
4 collected.

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1 27 (Currently Amended). The article of claim 25, wherein the code that, when  
2 executed, causes the machine to provide the feedback data element element and  
3 further causes the machine to utilize the feedback data ~~element~~ element, wherein  
4 utilizing the feedback data comprises at least one of the group comprising: modifying a  
5 grammar file based on the feedback data, updating speech models based on the  
6 feedback data and updating a prediction mechanisms based on the feedback data.

1

1 28 (Original). The article of claim 25, wherein the article contains further  
2 machine-readable code that, when executed, causes the machine to store only those  
3 audio input signals for which the correction status indicates that a correction to the  
4 output signal was necessary.

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1 29 (Original). The article of claim 25, wherein the article contains further  
2 machine-readable code that, when executed, causes the machine to store only those

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- 3 audio input signals for which the correction status indicates that no correction to the
- 4 output signal was necessary.